

## 4. Claims:

## Claim 1

A network system that supports unicast as a communication  
5 scheme from a server to one client in a network, multicast  
as a communication scheme from the server to all the clients  
in a predetermined group, and broadcast as a communication  
scheme from the server to all the clients in the network,  
wherein said server comprises:

10 a permanent ID information storage section for storing  
permanent IDs of each of the clients, wherein each of the  
clients is granted a permanent ID that is mutually  
identifiable and permanent; and

a polling transmission section for transmitting a  
15 packet for polling to the clients by means of broadcast or  
multicast, wherein the packet contains information about the  
permanent IDs of the clients that need or need not reply to  
the polling, and

wherein said client comprises:

20 a permanent ID information storage section for storing  
its own permanent ID information;

a determination section for determining whether or not  
to reply based on whether its own permanent ID is contained  
in the packet for polling that has been received by means of  
25 broadcast or multicast; and

a reply section for replying or not replying to the  
server based on the determination made by said determination  
section.

## Claim 2

The network system according to claim 1, wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of  
5 file data from said server to said clients.

## Claim 3

A server in a network system that supports unicast as a communication scheme from the server to one client in a  
10 network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing  
15 permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent; and

a polling transmission section for transmitting a packet for polling to the clients by means of broadcast or  
20 multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling.

## Claim 4

25 The server according to claim 3, wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients.

## Claim 5

A client in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server  
5 to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing its own permanent ID information, wherein each of the  
10 clients is granted a permanent ID that is mutually identifiable and permanent;

a determination section for determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of  
15 broadcast or multicast; and

a reply section for replying or not replying to the server based on the determination made by said determination section.

## 20 Claim 6

The client according to claim 5, wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients, and wherein said reply  
25 section puts its client's own permanent ID information in a reply packet to said server.

## Claim 7

A network system that supports unicast as a communication

scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network,

5 wherein said server comprises:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

10 a notification of information transmission section for transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent

15 afterward; and

a polling transmission section for transmitting a packet for polling to the clients by means of broadcast or multicast after said notification of information transmission section transmits the packet for notification  
20 of information, and

wherein said client comprises:

a permanent ID information storage section for storing its own permanent ID information;

a determination section for determining whether or not  
25 to reply to the polling afterward based on whether its own permanent ID is contained in the packet for notification of information that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said

server in response to the packet for polling received by means of broadcast or multicast based on the determination made by said determination section after receipt of the packet of said notification of information.

5

## Claim 8

The network system according to claim 7, wherein said notification of information is associated with receipt or non-receipt at said server of an ACK or NACK from said  
10 clients in response to transmission of file data from said server to said clients, and wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to the transmission of the file data from said server to said clients.

15

## Claim 9

A server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server  
20 to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the  
25 clients is granted a permanent ID that is mutually identifiable and permanent;

a notification of information transmission section for transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the

packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

a polling transmission section for transmitting a  
5 packet for polling to the clients by means of broadcast or multicast after said notification of information transmission section transmits the packet for notification of information.

10 Claim 10

The server according to claim 9, wherein said notification of information is associated with receipt or non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said  
15 clients, and wherein said polling is associated with non-receipt at said server of an ACK or NACK from said clients in response to the transmission of the file data from said server to said clients.

20 Claim 11

A client in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast  
25 as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing its own permanent ID information, wherein each of the clients is granted a permanent ID that is mutually

identifiable and permanent;

a determination section for determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained in a packet for notification of  
5 information that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said server in response to a packet for polling received by means of broadcast or multicast based on the determination made by  
10 said determination section after receipt of the packet of said notification of information.

Claim 12

The client according to claim 11, wherein said notification  
15 of information is associated with receipt or non-receipt at said server of an ACK or NACK from said clients in response to transmission of file data from said server to said clients, and wherein said polling is associated with non-receipt at said server of an ACK or NACK from said  
20 clients in response to the transmission of the file data from said server to said clients, and wherein said reply section puts its client's own permanent ID information in a reply packet to said server.

25 Claim 13

A network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication

scheme from the server to all the clients in the network, wherein said server comprises:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the 5 clients is granted a permanent ID that is mutually identifiable and permanent;

a polling transmission section for polling the clients from which an ACK or NACK has not been received after file data was transmitted to the clients by means of broadcast or 10 multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply 15 to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not 20 reply to the polling;

a detection section for detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

25 a switching section for switching between the polling mode with non-receipt information and the polling mode with receipt information in said polling transmission section based on the number N, and wherein said client comprises:



a permanent ID information storage section for storing its own permanent ID information;

a determination section for determining whether or not to reply to the polling based on whether its own permanent  
5 ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said server in response to the packet for polling received by  
10 means of broadcast or multicast based on the determination made by said determination section.

#### Claim 14

The network system according to claim 13, wherein the  
15 switching section determines, based on N, which makes the number of packets to be transmitted smaller, the polling mode with non-receipt information or the polling mode with receipt information, and based on the determination switches  
20 the polling mode with receipt information in said polling transmission section.

#### Claim 15

A server in a network system that supports unicast as a  
25 communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising:

a permanent ID information storage section for storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

5 a polling transmission section for polling the clients from which an ACK or NACK has not been received after file data was transmitted to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of  
10 information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of  
15 information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

a detection section for detecting a number N of clients  
20 from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

a switching section for switching between the polling mode with non-receipt information and the polling mode with  
25 receipt information in said polling transmission section based on the number N.

#### Claim 16

The server according to claim 15, wherein said switching

section determines, based on N, which makes the number of packets to be transmitted smaller, the polling mode with non-receipt information or the polling mode with receipt information, and based on the determination switches between  
 5 the polling mode with non-receipt information and the polling mode with receipt information in said polling transmission section.

#### Claim 17

10 A client in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients  
 15 in the network, comprising:

a permanent ID information storage section for storing its own permanent ID information;

a determination section for determining whether or not to reply to the polling based on whether its own permanent  
 20 ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of broadcast or multicast; and

a reply section for replying or not replying to said server in response to the packet for polling received by  
 25 means of broadcast or multicast based on the determination made by said determination section.

#### Claim 18

A communication method for a network system that supports

unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to  
5 all the clients in the network, wherein said server performs the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent; and

10 transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling, and wherein said client performs the steps of:

15 storing its own permanent ID information;

determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

20 replying or not replying to the server based on said determination.

#### Claim 19

A communication method for a server in a network system that  
25 supports unicast as a communication scheme from the server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the

steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent; and

- 5 transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling.

#### 10 Claim 20

A communication method for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group,  
 15 and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

storing its own permanent ID information, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

- 20 determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast; and

replying or not replying to the server based on said  
 25 determination.

#### Claim 21

A communication method for a network system that supports unicast as a communication scheme from a server to one

client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server performs  
5 the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

transmitting a packet for notification of information  
10 to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by  
15 means of broadcast or multicast after having transmitted the packet for notification of information, and wherein said client performs the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling  
20 afterward based on whether its own permanent ID is contained in the packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received  
25 by means of broadcast or multicast after receipt of the packet of said notification of information.

#### Claim 22

A communication method for a server in a network system that

supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to  
5 all the clients in the network, comprising the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

transmitting a packet for notification of information  
10 to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by  
15 means of broadcast or multicast after having transmitted the packet for notification of information.

#### Claim 23

A communication method for clients in a network system that  
20 supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

25 storing its own permanent ID information, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

determining whether or not to reply to the polling afterward based on whether its own permanent ID is contained

in a packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to a packet for polling received by means of broadcast or multicast after receipt of the packet of said notification of information.

Claim 24

A communication method for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein said server performs the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or



multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission  
5 of the file data from the server to the clients by means of broadcast or multicast; and

switching between the polling mode with non-receipt information and the polling mode with receipt information based on the number N, and

10 wherein said client performs the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information  
15 prior to the polling that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast.

20

Claim 25

A communication method for a server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme  
25 from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is

mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a  
5 polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a  
10 polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

15 detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

switching between the polling mode with non-receipt  
20 information and the polling mode with receipt information based on the number N.

#### Claim 26

A communication method for clients in a network system that  
25 supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, comprising the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in a packet for polling itself or notification of information  
5 prior to the polling that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to a packet for polling received by means of broadcast or multicast.

10

Claim 27

A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a network system that supports unicast  
15 as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means  
20 causes a server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent; and

transmitting a packet for polling to the clients by  
25 means of broadcast or multicast, wherein the packet contains information about the permanent IDs of the clients that need or need not reply to the polling, and wherein the program causes a client computer to perform the steps of:

storing its own permanent ID information;

determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast;

5 and

replying or not replying to the server based on said determination.

Claim 28

10 A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a server in a network system that supports unicast as a communication scheme from the server to one client in a network, multicast as a communication  
15 scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a server computer to perform the steps of:

20 storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent; and

transmitting a packet for polling to the clients by means of broadcast or multicast, wherein the packet contains  
25 information about the permanent IDs of the clients that need or need not reply to the polling.

Claim 29

A communication computer program product comprising a

computer useable medium having computer program code means recorded thereon for clients in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme  
5 from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes a client computer to perform the steps of:

storing its own permanent ID information, wherein each  
10 of the clients is granted a permanent ID that is mutually identifiable and permanent;

determining whether or not to reply based on whether its own permanent ID is contained in the packet for polling that has been received by means of broadcast or multicast;  
15 and

replying or not replying to the server based on said determination.

#### Claim 30

20 A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server  
25 to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes said server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein

each of the clients is granted a permanent ID that is mutually identifiable and permanent;

transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein  
5 the packet contains information about the permanent IDs of the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by means of broadcast or multicast after having transmitted the  
10 packet for notification of information, and wherein the program causes said client computer to perform the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling  
15 afterward based on whether its own permanent ID is contained in the packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received  
20 by means of broadcast or multicast after receipt of the packet of said notification of information.

#### Claim 31

A communication computer program product comprising a  
25 computer useable medium having computer program code means recorded thereon for a server in a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group,

and broadcast as a communication scheme from the server to all the clients in the network, the computer program code means causes a server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein  
5 each of the clients is granted a permanent ID that is mutually identifiable and permanent;

transmitting a packet for notification of information to the clients by means of broadcast or multicast, wherein the packet contains information about the permanent IDs of  
10 the clients that need or need not reply to a polling packet sent afterward; and

transmitting a packet for polling to the clients by means of broadcast or multicast after having transmitted the packet for notification of information.

15 Claim 32

A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for clients in a network system that  
20 supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program  
25 code means causes a client computer to perform the steps of:

storing its own permanent ID information, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

determining whether or not to reply to the polling

afterward based on whether its own permanent ID is contained in a packet for notification of information that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to  
 5 said server in response to a packet for polling received by means of broadcast or multicast after receipt of the packet of said notification of information.

### Claim 33

10 A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a network system that supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server  
 15 to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program code means causes said server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein  
 20 each of the clients is granted a permanent ID that is mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a  
 25 polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a



polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or multicast, wherein the packet contains permanent IDs of the  
5 clients that need not reply to the polling;

detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of broadcast or multicast; and

10 switching between the polling mode with non-receipt information and the polling mode with receipt information based on the number N, and  
wherein the program causes said client computer to perform the steps of:

15 storing its own permanent ID information;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information prior to the polling that has been received by means of

20 broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast.

25 Claim 34

A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for a server in a network system that supports unicast as a communication scheme from a server to

one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program

5 code means causes a server computer to perform the steps of:

storing permanent IDs of each of the clients, wherein each of the clients is granted a permanent ID that is mutually identifiable and permanent;

polling the clients from which an ACK or NACK has not  
10 been received after having transmitted file data to the clients by means of broadcast or multicast, wherein in a polling mode with non-receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast  
15 or multicast, wherein the packet contains permanent IDs of the clients that need reply to the polling, whereas in a polling mode with receipt information, a packet for polling itself or notification of information prior to the polling is transmitted to said network by means of broadcast or  
20 multicast, wherein the packet contains permanent IDs of the clients that need not reply to the polling;

detecting a number N of clients from which an ACK or NACK has not been received in response to the transmission of the file data from the server to the clients by means of  
25 broadcast or multicast; and

switching between the polling mode with non-receipt information and the polling mode with receipt information based on the number N.

## Claim 35

A communication computer program product comprising a computer useable medium having computer program code means recorded thereon for clients in a network system that

5 supports unicast as a communication scheme from a server to one client in a network, multicast as a communication scheme from the server to all the clients in a predetermined group, and broadcast as a communication scheme from the server to all the clients in the network, wherein the computer program

10 code means causes a client computer to perform the steps of:

storing its own permanent ID information;

determining whether or not to reply to the polling based on whether its own permanent ID is contained in the packet for polling itself or notification of information

15 prior to the polling that has been received by means of broadcast or multicast; and

based on the determination, replying or not replying to said server in response to the packet for polling received by means of broadcast or multicast.

20